

**Vitreous and porcelain enamels - Glass-lined apparatus
for process plants - Part 2: Designation and
specification of resistance to chemical attack and
thermal shock (ISO 28721- 2:2008)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 28721-2:2011 sisaldab Euroopa standardi EN ISO 28721-2:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.04.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 13.04.2011.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 28721-2:2011 consists of the English text of the European standard EN ISO 28721-2:2011.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.04.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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English Version

**Vitreous and porcelain enamels - Glass-lined apparatus for
process plants - Part 2: Designation and specification of
resistance to chemical attack and thermal shock (ISO 28721-
2:2008)**

Émaux vitrifiés - Appareils émaillés pour les installations
industrielles - Partie 2: Désignation et spécifications de la
résistance à l'attaque chimique et au choc thermique (ISO
28721-2:2008)

Emails und Emailierungen - Emailierte Apparate für
verfahrenstechnische Anlagen - Teil 2: Bezeichnung und
Festlegung der chemischen und
Temperaturschockbeständigkeit (ISO 28721-2:2008)

This European Standard was approved by CEN on 17 March 2011.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

The text of ISO 28721-2:2008 has been prepared by Technical Committee ISO/TC 107 “Metallic and other inorganic coatings” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 28721-2:2011 by Technical Committee CEN/TC 262 “Metallic and other inorganic coatings” the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

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Endorsement notice

The text of ISO 28721-2:2008 has been approved by CEN as a EN ISO 28721-2:2011 without any modification.

Introduction

For many materials, the chemical composition can serve as a basis for a specification. This is not possible for chemical enamels because the composition is tied very closely to the specific enamelling technique and is therefore not disclosed by the manufacturer for competitive reasons. In order to ascribe measurable attributes to an enamel besides its general designation, the manufacturer conducts standardized tests and specifies its enamel in terms of the resulting resistance to corrosion and thermal shock, together with a declaration of the structure of the cover coat enamel and the colour of the enamel.

The quality requirements stated in this part of ISO 28721 represent the minimum requirements a chemical enamel is expected to meet based on the current state of the art.

Vitreous and porcelain enamels — Glass-lined apparatus for process plants —

Part 2: Designation and specification of resistance to chemical attack and thermal shock

1 Scope

This part of ISO 28721 specifies requirements for the resistance to chemical attack and thermal shock of chemical enamels and their designation for ordering purposes.

It is applicable to enamelled apparatus, piping and other components primarily used for process equipment in chemical plants.

It only applies to unalloyed and low-alloy carbon steels suitable for enamelling.

NOTE The main criteria for assessing enamel quality are the resistance to chemical attack and thermal shock and the structure of the cover coat enamel.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13807, *Vitreous and porcelain enamels — Determination of crack formation temperature in the thermal shock testing of enamels for the chemical industry*

ISO 28706-2, *Vitreous and porcelain enamels — Determination of resistance to chemical corrosion — Part 2: Determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids and/or their vapours*

ISO 28706-4, *Vitreous and porcelain enamels — Determination of resistance to chemical corrosion — Part 4: Determination of resistance to chemical corrosion by alkaline liquids using a cylindrical vessel*

3 Designation

The enamel quality shall be designated by stating the following information:

- the rate of corrosion in hydrochloric acid, determined in accordance with ISO 28706-2;
- the rate of corrosion in sodium hydroxide solution, determined in accordance with ISO 28706-4;
- the crack formation temperature, determined in accordance with ISO 13807;